

CLAIMS

1.      Reproduction method for printing wherein characteristic data of an original are transformed into data required for printing, wherein a modified characteristic curve of printing which in relation to the ideal characteristic curve of printing has a maximum above an area coverage of 50 % is predefined for the transformation in order to control the dot gain in printing.
2.      Reproduction method for printing in accordance with Claim 1, wherein the modified characteristic curve of printing in relation to the ideal characteristic curve of printing corresponds to the dependence of a modified dot gain on the area coverage.
3.      Reproduction method for printing in accordance with Claim 1, wherein the maximum of the modified characteristic curve of printing in relation to the ideal characteristic curve of printing lies at an area coverage of between 50 % and 70 %.
4.      Reproduction method for printing in accordance with Claim 1, wherein the maximum of the modified characteristic curve of printing in relation to the ideal characteristic curve of printing lies at approximately 60 % area coverage.
5.      Reproduction method for printing in accordance with Claim 1, wherein the modified characteristic curve of printing in relation to the ideal characteristic curve of printing has a zero crossing at a finite area coverage.

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6.      Reproduction method for printing in accordance with Claim 1, wherein the zero crossing of the modified characteristic curve of printing at low area coverage lies in the range of between 3 % and 30 % area coverage.
- 5    7.      Reproduction method for printing in accordance with Claim 1, wherein the zero crossing of the modified characteristic curve of printing at low area coverage lies in the range of between 5 % and 25 % area coverage.
8.      Reproduction method for printing in accordance with Claim 1, wherein the zero crossing of the modified characteristic curve of printing at high area coverage lies in the range of between 90 % and 98 % area coverage.
9.      Reproduction method for printing in accordance with Claim 1, wherein the zero crossing of the modified characteristic curve of printing at high area coverage lies in the range of between 95 % and 98 % area coverage.
10.     Reproduction method for printing in accordance with Claim 1, wherein the zero crossing of the modified characteristic curve of printing at low area coverage has a flatter slope than the zero crossing at high area coverage.
11.     Reproduction method for printing in accordance with Claim 10, wherein the slope of the zero crossing at low area coverage lies in the range of between 20° and 30°.

12.      Reproduction method for printing in accordance with Claim 10, wherein the slope of the zero crossing at high area coverage lies in the range of between 25° and 35°.
- 5      13.      Reproduction method for printing in accordance with Claim 1, wherein the maximum of the modified characteristic curve of printing is determined by a correlation of the theoretical area coverage and the dot gain.
- 10      14.      Reproduction method for printing in accordance with Claim 1, wherein the modified characteristic curve of printing is predefined by a mathematical function.
- 15      15.      Reproduction method for printing in accordance with Claim 14, wherein the predefined function comprises several arcs of a circle.
16.      Reproduction method for printing in accordance with Claim 15, wherein the predefined function comprises two arcs of a circle.
- 20      17.      Reproduction method for printing in accordance with Claim 15, wherein the position of the center point of the circle forming an arc of a circle is adjustable.
18.      Reproduction method for printing in accordance with Claim 15, wherein the radius of the circle forming an arc of a circle is adjustable.
- 25      19.      Reproduction method for printing in accordance with Claim 14, wherein the predefined mathematical function is one or several arcs of an ellipse, a parabola or a hyperbola.

20.     Reproduction method for printing in accordance with Claim 1, wherein the modified characteristic curve of printing has in relation to the ideal characteristic curve of printing a maximum percent dot gain of less than 30 %.

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21.     Reproduction method for printing in accordance with Claim 20, wherein the maximum percent dot gain lies in the range of between 5 % and 30 %.

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22.     Reproduction method for printing in accordance with Claim 21, wherein the maximum percent dot gain is approximately 10 %.

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23.     Reproduction method for printing in accordance with Claim 1, wherein a modified black color characteristic curve of printing is used for black.

24.     Reproduction method for printing in accordance with Claim 1, wherein a modified chromatic color tone characteristic curve of printing is used for the chromatic color tones.

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25.     Reproduction method for printing in accordance with Claim 1, wherein printing inks with increased density in the print are used for printing.

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26.     Reproduction method for printing in accordance with Claim 25, wherein the standard density in the print in the case of the printing ink with the lowest density is at least approximately 1.6.

27.     Reproduction method for printing in accordance with Claim 1, wherein a CMYK set of process colors is used for printing.

28.     Reproduction method for printing in accordance with Claim 25, wherein the standard density in the print in the case of printing ink of the color tone yellow (Y) is approximately 2.0.
- 5     29.     Reproduction method for printing in accordance with Claim 25, wherein the standard density in the print in the case of printing ink of the color tone magenta (M) is approximately 2.4.
- 10    30.     Reproduction method for printing in accordance with Claim 25, wherein the standard density in the print in the case of printing ink of the color tone cyan (C) is approximately 2.5.
- 15    31.     Reproduction method for printing in accordance with Claim 25, wherein the standard density in the print in the case of printing ink of the color tone black (K) is approximately 3.0.
- 20    32.     Reproduction method for printing in accordance with Claim 25, wherein a printing ink is made from a mixture of binder, colorant and printing additives, and the proportion of the colorant in an ink as proportion of pigment is between 15 % and 40 %.
- 25    33.     Reproduction method for printing in accordance with Claim 1, wherein the transformation from the original to printing data comprises a color space transformation from an RGB color space to a CMYK color space.
34.     Reproduction method for printing in accordance with Claim 1, wherein the printing process is an offset printing process.

35. Reproduction method for printing in accordance with Claim 1, wherein the modified characteristic curve of printing is entered in a color management system.

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